I. In the Claims (Clean Sheet)

23. A nucleic acid sequence encoding a 15 kD *Babesia canis* associated protein or an immunogenic fragment of said protein, said protein or immunogenic fragment thereof having at least 80% homology with the amino acid sequence as depicted in SEQ ID NO:2.

24. The nucleic acid sequence of Claim 23 having at least 90% homology with the amino acid sequence as depicted in SEQ ID NO:2.

25. The nucleic acid sequence of Claim 23 having at least 95% homology with the amino acid sequence as depicted in SEQ ID NO:2.

26. A cDNA comprising a nucleic acid sequence according to Claim 23.

27. A recombinant DNA molecule comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

28. A recombinant DNA molecule comprising a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

29. A live recombinant vector comprising a cDNA [illegible] Claim 23.

[illegible]

nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

31. A host cell comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23; a cDNA fragment comprising a nucleic acid sequence according to Claim 23; a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter; and, a live recombinant carrier comprising a carrier selected from the group consisting of a nucleic acid sequence according to Claim 23 and a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

32. A *Babesia canis* associated protein, said protein having a molecular weight of 15 kD and comprising an amino acid sequence that is at least [illegible] homologous to the amino acid sequence as depicted in SEQ ID NO: [illegible] an immunogenic fragment of said protein.

33. The *Babesia canis* associated protein of claim 32 wherein the amino acid sequence is at least 85 homologous [illegible]

34. The *Babesia canis* associated protein of claim 32 wherein the amino acid sequence is at least 90% homologous to the amino acid sequence as depicted in SEQ ID NO: 2, or an immunogenic fragment of said protein.

35. The *Babesia canis* associated protein of claim 32 wherein the amino acid sequence is at least 95% homologous to the amino acid sequence as depicted in SEQ ID NO: 2, or an immunogenic fragment of said protein.

36. A vaccine for combating *Babesia canis* infections, comprising an immunogen selected from the group consisting of a nucleic acid sequence according to Claim 23; a cDNA comprising a nucleic acid sequence according to Claim 23; a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter; a live recombinant carrier selected from the group consisting of a nucleic acid sequence according to Claim 23 and a recombinant DNA molecule selected from the group consisting of a cDNA comprising a nucleic acid sequence according to Claim 23 and a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter; and, a host cell comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23, a cDNA fragment comprising a nucleic acid sequence

under the control of a functionally linked promoter, and, a live recombinant carrier comprising a carrier selected from the group consisting of a nucleic acid sequence according to Claim 23 and a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

37. The vaccine of claim 36 further comprising an adjuvant.

38. The vaccine of claim 36 further comprising an additional antigen derived from a virus or microorganism pathogenic to dogs or a nucleic acid sequence encoding said antigen.

39. The vaccine according to claim 38, wherein said virus or micro-organism pathogenic to dogs is selected from the group of *Ehrlichia canis*, *Babesia gibsoni*, *vogeli*, *rossi*, *Leishmania donovani*-complex, Canine parvovirus, Canine distempervirus, *Leptospira interrogans serovar canicola*, *icterohaemorrhagiae*, *pomona*, *grippotyphosa*, *bratislava*, Canine hepatitisvirus, Canine parainfluenzavirus, rabies virus, *Hepatozoon canis* and *Borrelia burgdorferi*.

40. A vaccine for combating *Babesia canis* infections, comprising antibodies against a protein selected from the group consisting of at least one of the proteins of claims

41. A diagnostic test for the detection of *Babesia canis* associated RNA wherein the test comprises a nucleic acid sequence according to Claim 25, a nucleotide sequence that is complementary to said nucleic acid sequence, and a fragment thereof having a length of at least 12 nucleotides.

42. A diagnostic test for the detection of antibodies against *Babesia canis* associated antigenic material, wherein said test comprises a protein or an immunogenic fragment thereof as defined in claims 32-35.

43. A diagnostic test for the detection of *Babesia canis* associated antigenic material, wherein said test comprises antibodies against a protein or an immunogenic fragment thereof as defined in claims 32-35.

44. A nucleic acid sequence encoding a 32 kD *Babesia canis* associated protein or an immunogenic fragment of said protein, said protein or immunogenic fragment thereof having at least 80% homology with the amino acid sequence as depicted in SEQ ID NO:4.

45. The nucleic acid sequence of Claim 44 having at least 90% homology with the amino acid sequence as depicted in SEQ ID NO:4.

46. The nucleic acid sequence of Claim 44 having at least

47. A cDNA comprising a nucleic acid sequence according to Claim 44.

48. A recombinant DNA molecule comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

49. A recombinant DNA molecule comprising a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

50. A live recombinant carrier comprising a cDNA comprising a nucleic acid sequence according to Claim 44.

51. A live recombinant carrier comprising a recombinant DNA molecule selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

52. A host cell comprising sequence selected from the group consisting of a nucleic acid sequence according to Claim 44; a cDNA fragment comprising a nucleic acid sequence according to Claim 44; a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter; and, a

acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

53. A *Babesia canis* associated protein, said protein having a molecular weight of 32 kD and comprising an amino acid sequence that is at least 80 homologous to the amino acid sequence as depicted in SEQ ID NO:4 or an immunogenic fragment of said protein.

54. The *Babesia canis* associated protein of claim 53 wherein the amino acid sequence is at least 85% homologous to the amino acid sequence as depicted in SEQ ID NO: 4, or an immunogenic fragment of said protein.

55. The *Babesia canis* associated protein of claim 53 wherein the amino acid sequence is at least 90% homologous to the amino acid sequence as depicted in SEQ ID NO: 4, or an immunogenic fragment of said protein.

56. The *Babesia canis* associated protein of claim 53 wherein the amino acid sequence is at least 95% homologous to the amino acid sequence as depicted in SEQ ID NO: 4, or an immunogenic fragment of said protein.

57. A vaccine for combating *Babesia canis* infections, comprising an immunogen selected from the group consisting of a nucleic acid sequence according to Claim 44; a cDNA

nucleic acid according to Claim 44, under the control of a functionally linked promoter; a live recombinant carrier selected from the group consisting of a nucleic acid sequence according to Claim 44 and a recombinant DNA molecule selected from the group consisting of a cDNA comprising a nucleic acid sequence according to Claim 44 and a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter; and, a host cell comprising sequence selected from the group consisting of a nucleic acid sequence according to Claim 44, a cDNA fragment comprising a nucleic acid sequence according to Claim 44, a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter, and, a live recombinant carrier comprising a carrier selected from the group consisting of a nucleic acid sequence according to Claim 44 and a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

[illegible]. The [illegible] of Claim [illegible] further comprising an adjuvant.

[illegible]. The [illegible] of Claim [illegible] further comprising an [illegible]

60. The vaccine according to claim 59, wherein said virus or micro-organism pathogenic to dogs is selected from the group of *Ehrlichia canis*, *Babesia gibsoni*, *vogeli*, *rossi*, *Leishmania donovani*-complex, Canine parvovirus, Canine distempervirus, *Leptospira interrogans* serovar *canicola*, *icterohaemorrhagiae*, *pomona*, *grippotyphosa*, *bratislava*, Canine hepatitisvirus, Canine parainfluenzavirus, rabies virus, *Hepatozoon canis* and *Borrelia burgdorferi*.

61. A vaccine for combating Babesia canis infections, comprising antibodies against a protein selected from the group consisting of at least one of the proteins of Claims 53-56, or immunogenic fragment thereof.

62. A diagnostic test for the detection of antibodies against *Babesia canis* associated antigenic material, wherein said test comprises a protein or an immunogenic fragment thereof as defined in claims 52-55

63. A diagnostic test for the detection of *Babesia canis* associated antigenic material, wherein said test comprises antibodies against a protein or an immunogenic fragment thereof as defined in claims 52-55.

II. In the Claims (Marked Version)

Please cancel claims 1-22 without prejudice or disclaimer. Applicants are canceling claims 1-22 to present the identical claims in a proper form for U.S. examination.

Please insert the following claims:

- - 23. A nucleic acid sequence encoding a 15 kD *Babesia canis* associated protein or an immunogenic fragment of said protein, said protein or immunogenic fragment thereof having at least 80% homology with the amino acid sequence as depicted in SEQ ID NO:2.

24. The nucleic acid sequence of Claim 23 having at least 90% homology with the amino acid sequence as depicted in SEQ ID NO:2.

25. The nucleic acid sequence of Claim 23 having at least 95% homology with the amino acid sequence as depicted in SEQ ID NO:2.

26. A cDNA comprising a nucleic acid sequence according to Claim 23.

27. A recombinant DNA molecule comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

29. A live recombinant carrier comprising a cDNA comprising a nucleic acid sequence according to Claim 23.

30. A live recombinant carrier comprising a recombinant DNA molecule selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

31. A host cell comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23; a cDNA fragment comprising a nucleic acid sequence according to Claim 23; a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter; and, a live recombinant carrier comprising a carrier selected from the group consisting of a nucleic acid sequence according to Claim 23 and a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

32. A *Babesia canis* associated protein, said protein having a molecular weight [illegible] and comprising an amino

33. The *Babesia canis* associated protein of claim 32 wherein the amino acid sequence is at least 85% homologous to the amino acid sequence as depicted in SEQ ID NO: 2, or an immunogenic fragment of said protein.

34. The *Babesia canis* associated protein of claim 32 wherein the amino acid sequence is at least 90% homologous to the amino acid sequence as depicted in SEQ ID NO: 2, or an immunogenic fragment of said protein.

35. The *Babesia canis* associated protein of claim 32 wherein the amino acid sequence is at least 95% homologous to the amino acid sequence as depicted in SEQ ID NO: 2, or an immunogenic fragment of said protein.

36. A vaccine for combating *Babesia canis* infections, comprising an immunogen selected from the group consisting of a nucleic acid sequence according to Claim 23; a cDNA comprising a nucleic acid sequence according to Claim 23; a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter; a live recombinant carrier selected from the group consisting of a nucleic acid sequence according to Claim 23 and a recombinant DNA molecule selected from the group consisting of a cDNA comprising a nucleic acid sequence according to Claim 23 and a nucleic acid sequence

nucleic acid sequence according to Claim 23, a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter, and, a live recombinant carrier comprising a carrier selected from the group consisting of a nucleic acid sequence according to Claim 23 and a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 23 and a cDNA comprising a nucleic acid sequence according to Claim 23, under the control of a functionally linked promoter.

37. The vaccine of claim 36 further comprising an adjuvant.

38. The vaccine of claim 36 further comprising an additional antigen derived from a virus or microorganism pathogenic to dogs or a nucleic acid sequence encoding said antigen.

39. The vaccine according to claim 38, wherein said virus or microorganism pathogenic to dogs is selected from the group of *Ehrlichia canis*, *Babesia gibsoni*, *vogeli*, *rossi*, *Leishmania donovani*-complex, Canine parvovirus, Canine distempervirus, *Leptospira interrogans serovar canicola*, *icterohaemorrhagiae*, *pomona*, *grippotyphosa*, *bratislava*,

40. A vaccine for combating *Babesia canis* infections, comprising antibodies against a protein selected from the group consisting of at least one of the proteins of claims 32-35, or immunogenic fragment thereof.

41. A diagnostic test for the detection of *Babesia canis* associated RNA wherein the test comprises a nucleic acid sequence according to Claim 23, a nucleotide sequence that is complementary to said nucleic acid sequence, and a fragment thereof having a length of at least 12 nucleotides.

42. A diagnostic test for the detection of antibodies against *Babesia canis* associated antigenic material, wherein said test comprises a protein or an immunogenic fragment thereof as defined in claims 32-35.

43. A diagnostic test for the detection of *Babesia canis* associated antigenic material, wherein said test comprises antibodies against a protein or an immunogenic fragment thereof as defined in claims 32-35.

44. A nucleic acid sequence encoding a 32 kD *Babesia canis* associated protein or an immunogenic fragment of said protein, said protein or immunogenic fragment thereof having at least [illegible] homology with the amino acid sequence as depicted in SEQ ID NO:4.

45. The nucleic acid sequence of Claim 44 having at least [illegible]

46. The nucleic acid sequence of Claim 44 having at least 95% homology with the amino acid sequence as depicted in SEQ ID NO:4.

47. A cDNA comprising a nucleic acid sequence according to Claim 44.

48. A recombinant DNA molecule comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

49. A recombinant DNA molecule comprising a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

50. A live recombinant carrier comprising a cDNA comprising a nucleic acid sequence according to Claim 44.

51. A live recombinant carrier comprising a recombinant DNA molecule selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

52. A host cell comprising sequence selected from the group consisting of a nucleic acid sequence according to Claim 44; a cDNA fragment comprising a nucleic acid sequence according to Claim 44; a recombinant DNA molecule comprising

recombinant carrier comprising a carrier selected from the group consisting of a nucleic acid sequence according to Claim 44 and a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

53. A *Babesia canis* associated protein, said protein having a molecular weight of 32 kD and comprising an amino acid sequence that is at least 80% homologous to the amino acid sequence as depicted in SEQ ID NO:4 or an immunogenic fragment of said protein.

54. The *Babesia canis* associated protein of claim 53 wherein the amino acid sequence is at least 85% homologous to the amino acid sequence as depicted in SEQ ID NO: 4, or an immunogenic fragment of said protein.

55. The *Babesia canis* associated protein of claim 53 wherein the amino acid sequence is at least 90% homologous to the amino acid sequence as depicted in SEQ ID NO: 4, or an immunogenic fragment of said protein.

56. The *Babesia canis* associated protein of claim 53 wherein the amino acid sequence is at least 95% homologous to the amino acid sequence as depicted in SEQ ID NO: 4, or an immunogenic fragment of said protein.

fragment comprising a nucleic acid sequence according to Claim 44; a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid according to Claim 44, under the control of a functionally linked promoter; a live recombinant carrier selected from the group consisting of a nucleic acid sequence according to Claim 44 and a recombinant DNA molecule selected from the group consisting of a cDNA comprising a nucleic acid sequence according to Claim 44 and a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter; and, a host cell comprising sequence selected from the group consisting of a nucleic acid sequence according to Claim 44, a cDNA fragment comprising a nucleic acid sequence according to Claim 44, a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter, and, a live recombinant carrier comprising a carrier selected from the group consisting of a nucleic acid sequence according to Claim 44 and a recombinant DNA molecule comprising a sequence selected from the group consisting of a nucleic acid sequence according to Claim 44 and a cDNA comprising a nucleic acid sequence according to Claim 44, under the control of a functionally linked promoter.

59. The vaccine of claim 57 further comprising an additional antigen derived from a virus or microorganism pathogenic to dogs or a nucleic acid sequence encoding said antigen.

60. The vaccine according to claim 59, wherein said virus or micro-organism pathogenic to dogs is selected from the group of *Ehrlichia canis, Babesia gibsoni, vogeli, rossi, Leishmania donovani*-complex, Canine parvovirus, Canine distempervirus, *Leptospira interrogans serovar canicola, icterohaemorrhagiae, pomona, grippotyphosa, bratislava,* Canine hepatitisvirus, Canine parainfluenzavirus, rabies virus, *Hepatozoon canis* and *Borrelia burgdorferi.*

61. A vaccine for combating Babesia canis infections, comprising antibodies against a protein selected from the group consisting of at least one of the proteins of Claims 53-56, or immunogenic fragment thereof.

62. A diagnostic test for the detection of antibodies against *Babesia canis* associated antigenic material, wherein said test comprises a protein or an immunogenic fragment thereof as defined in Claims 53-56

63. A diagnostic test for the detection of *Babesia canis* associated antigenic material, wherein said test comprises antibodies against a protein or an immunogenic fragment thereof as defined in Claims 53-56. - -

New claims 23-63 are original claims 1-22 re-written in a format proper for U.S. examination. The amendments made were not based on reasons related to patentability under 35 U.S.C. §§ USC 101, 102, 103 and/or 112. No estoppel should result from said amendments.